

WHAT IS CLAIMED IS:

1               1. A headband, comprising:  
2               an elastic segment sized to fit around a wearer's head; and  
3               a non-elastic segment being smaller than and attached with said elastic  
4               segment, said non-elastic segment sized to span a portion of said elastic segment when said  
5               elastic segment is stretched, said non-elastic segment being larger than said portion of said  
6               elastic segment it spans when said elastic segment is not stretched.

1               2. The headband of claim 1 further comprising a closure mechanism  
2               coupled with said elastic portion.

1               3. The headband of claim 2 wherein said closure mechanism is a hook  
2               and loop closure, a snap, a button, an adhesive, a pin, or combinations thereof.

1               4. The headband of claim 1 wherein said elastic segment is rectangular  
2               shaped having a long and a short dimension, and said non-elastic segment is attached along a  
3               set of its edges with said elastic segment, wherein said set of edges are generally parallel to  
4               said short dimension.

1               5. The headband of claim 1 wherein said non-elastic segment is attached  
2               with said elastic segment in such a manner that said non-elastic segment projects out from the  
3               surface of the elastic portion when said headband is not sufficiently tight, thus creating a loop  
4               which provides a visual indication that the headband needs re-tightening.

1               6. The headband of claim 1 wherein said non-elastic segment is formed  
2               with a fold or a crease, which causes said non-elastic portion to project out from the surface  
3               of the elastic portion in a pronounced fashion as the elastic segment retracts.

1               7. The headband of claim 5 wherein said non-elastic segment is sized to  
2               not project out from the surface of the elastic portion when said headband is sufficiently tight  
3               thus indicating an adequate level of tension corresponding with delivering a pressure in the  
4               range higher than the venous pressure and lower than the capillary pressure to the forehead of  
5               the wearer.

1               8. A headband, comprising:  
2               an inelastic segment sized to fit around a wearer's head; and

3 an elastic segment being smaller than and attached with said inelastic segment,  
4 said elastic segment sized to span a portion of said inelastic segment when said elastic  
5 segment is stretched, said elastic segment being smaller than said portion of said inelastic  
6 segment it spans when said elastic segment is not stretched.

1                   9. The headband of claim 8 further comprising a closure mechanism  
2 coupled with said elastic portion.

1                   10. The headband of claim 9 wherein said closure mechanism is a hook  
2 and loop closure, a snap, a button, an adhesive, a pin, or combinations thereof.

1                   11. The headband of claim 8 wherein said inelastic segment is rectangular  
2 shaped having a long and a short dimension, and said elastic segment is attached along a set  
3 of its edges with said inelastic segment, wherein said set of edges are generally parallel to  
4 said short dimension.

1           12. The headband of claim 8 wherein said elastic segment is attached with  
2       said inelastic segment in such a manner that said non-elastic segment projects out from the  
3       surface adjacent to a user's forehead when said headband is not sufficiently tight, thus  
4       creating a loop which provides a visual indication that the headband needs re-tightening.

1                   13. The headband of claim 12 wherein said non-elastic segment is sized to  
2 not project out from said surface when said headband is sufficiently tight thus indicating an  
3 adequate level of tension corresponding with delivering a pressure in the range higher than  
4 venous pressure and lower than capillary pressure to the wearer's forehead.

1                   14. A headband for holding an oximetry sensor on the forehead of a  
2 patient, comprising:

3 an elastic segment sized to fit around a patient's head and over an oximetry  
4 sensor located on the forehead of a patient; and  
5 a non-elastic segment being smaller than and attached with said elastic  
6 segment, said non-elastic segment sized to span a portion of said elastic segment when said  
7 elastic segment is stretched, said non-elastic segment being larger than said portion of said  
8 elastic segment it spans when said elastic segment is not stretched.

1               15. The headband of claim 14 further comprising a closure mechanism  
2 coupled with said elastic portion.

1               16. The headband of claim 15 wherein said closure mechanism is a hook  
2 and loop closure, a snap, a button, an adhesive, a pin, or combinations thereof.

1               17. The headband of claim 14 wherein said non-elastic segment is attached  
2 with said elastic segment in such a manner that said non-elastic segment projects out from the  
3 surface of the elastic portion when said headband is not sufficiently tight, thus creating a loop  
4 which provides a visual indication that the headband needs re-tightening.

1               18. The headband of claim 17 wherein said non-elastic segment is sized to  
2 not project out from the surface of the elastic portion when said headband is sufficiently tight  
3 thus indicating an adequate level of tension corresponding with delivering a pressure in the  
4 range higher than the venous pressure and lower than the capillary pressure to the oximetry  
5 sensor applied to the forehead of the patient.